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Letter to the Editor

Providing outpatient parenteral antibiotic therapy (OPAT) to facilitate effective treatment of melioidosis

We read with interest a recent study describing melioidosis in the western coastal region of India.[1] While the peri-equatorial endemicity of melioidosis is well-documented in Southeast Asia and northern Australia, descriptions in other parts of Asia expand our understanding of its geographical reach and with this, the management challenges.[2]

Singapore reported its first case of melioidosis in 1920.[3] Although most of its rural landscape has been urbanized, melioidosis remains endemic, with 319 cases notified to the Health Ministry between 2006 and 2011.[4] Historically, no correlation with time of year has been noted, except in 2004 when a large outbreak was linked to unprecedented rainfall.[5]

Fifty-six melioidosis cases were treated over 6 years at two of the country's largest outpatient parenteral antibiotic therapy (OPAT) centers. Our criteria for entry into OPAT were: defervescence, hemodynamic stability, and no further interventions anticipated. Patients received continuous antibiotic infusions via a peripherally inserted central catheter (PICC) and an elastomeric infusor. Ceftazidime, the initial treatment of choice,[6] is stable once reconstituted.[7] The daily dose was 6–8 g (100–200 mg/kg/day).[8]

Remarkably, 51 of 56 patients (91%) were male. Nationwide the annual incidence for male patients is estimated to be 3–7 times that of females.[5] The median treatment duration in our series was 27 days (interquartile range (IQR) 21–32 days), of which a median 14 days (IQR 10–21 days) were spent in OPAT.

Forty-seven patients (84%) completed their planned intravenous courses in OPAT. Of the nine who did not complete, four experienced adverse drug reactions, two required additional surgical procedures aimed at source control, and three deteriorated clinically due to pre-existing co-morbidities. Most (7/9) were readmitted electively through the OPAT service and two presented via the emergency department, but safely, with good ultimate outcomes.

An appropriate duration of initial 'intensive' intravenous antibiotic therapy is critical for the management of melioidosis, a potentially progressive disease with a high case-fatality.[9] A subsequent eradication phase of some months utilizing oral antibiotics is required to reduce relapse rate.[8] The utilization of OPAT in our experience is very successful and consistent with a prior study of melioidosis in OPAT reporting completion in 59 of 73 patients (81%).[10] OPAT is an important treatment option given the necessary prolonged course of ceftazidime, which would otherwise result in extended hospitalization.

In our series, 803 bed-days were saved. Clinicians in regions with endemic melioidosis should consider OPAT for a safe, cost-effective, patient-friendly treatment modality.

Conflict of interest: No conflict of interest to declare.

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